

CLAIMS AMENDMENTS

Please cancel claim 10 without prejudice.

Rewrite the pending claims and add new claims as follows:

1. (Previously Amended) An apparatus through which a substrate is transferred between a first vacuum chamber and a second vacuum chamber, wherein said first vacuum chamber is maintained at a high temperature relative to a temperature maintained within said second vacuum chamber, said second vacuum chamber including a port; said apparatus comprising:

a passageway for receiving said substrate; and

a thermally isolating interface that reduces heat transfer from said first vacuum chamber to said second vacuum chamber, said thermally isolating interface allowing for transfer of said substrate between said apparatus and said second vacuum chamber, said thermally isolating interface having a face with a border disposed on said face, the border defining a hole in said thermally isolating interface having dimensions such that said substrate is transferrable through said thermally isolating interface;

wherein said thermally isolating interface is made of metal having a thermal conductivity coefficient of less than 1536 Btu inch/(hr)(ft²)(°F) and wherein said first vacuum chamber, said apparatus, and said second chamber are sealed together to form a closed environment having an internal pressure that is less than standard atmospheric pressure.

2. (Previously Amended) The apparatus of claim 1 wherein said first vacuum chamber is a heat chamber or a high temperature processing chamber and said second vacuum chamber is a transfer chamber.

3 - 4. (Cancelled)

5. (Previously Amended) The apparatus of claim 1 wherein said thermally isolating interface is made of stainless steel.

6. (Previously Amended) The apparatus of claim 1 wherein said thermally isolating interface is composed of a stainless steel having a thermal conductivity coefficient of about 106 Btu inch/(hr)(ft²)(°F).

7. (Original) The apparatus of claim 1, wherein said face includes a recess such that, when said face abuts said port, a thermally isolating volume is defined within said recess.

8. (Original) The apparatus of claim 7 wherein said thermally isolated volume is occupied by a composition having a thermal conductivity coefficient of less than 1200 Btu inch/(hr)(ft²)(°F).

9. (Original) The apparatus of claim 8 wherein said composition is air or an insulating material.

10. (Cancelled)

11. (Original) The apparatus of claim 7 wherein a cross section of said recess is defined by a shape selected from the group consisting of a sawtooth pattern, a repeating pattern, a curve, and a polynomial equation.

12. (Currently Amended) The apparatus of claim 1 wherein said high temperature is in a range between about 250°C to and about 625°C.

13. (Previously Amended) The apparatus of claim 1 wherein said passageway further comprises a heating element for maintaining said apparatus at a temperature that is proximate to said high temperature.

14. (Previously Amended) The apparatus of claim 13 wherein said heating element comprises a heater that is encased in a metal shape.

15. (Original) The apparatus of claim 13 wherein said heating element is a coil wrapped about a ceramic base.

16. (Original) The apparatus of claim 13 wherein said passageway further comprises a heat distribution mechanism for distributing heat generated by said heating element.

17. (Original) The apparatus of claim 13 wherein said heat distribution mechanism is a reflective surface.

18. (Original) The apparatus of claim 17 wherein said heat distribution mechanism is a parabolic mirror.

19. (Original) The apparatus of claim 1 wherein said substrate is a semiconductor substrate or a glass substrate.

20. (Previously Amended) An apparatus through which a substrate is transferred between a first vacuum chamber and a second vacuum chamber, wherein said first vacuum chamber is maintained at a high temperature relative to a temperature maintained in said second vacuum chamber, said second vacuum chamber including a port; said apparatus comprising:

a passageway for receiving said substrate; and

a stainless steel interface that reduces heat transfer from said first vacuum chamber to said second vacuum chamber, said stainless steel interface allowing for transfer of said substrate between said apparatus and said second chamber, said stainless steel interface having a face with a border disposed on said face, the border defining a hole in said stainless steel interface having dimensions such that said substrate is transferrable through said stainless steel interface;

wherein said first vacuum chamber, said apparatus, and said second chamber are sealed together to form a closed environment having an internal pressure that is less than standard atmospheric pressure.

21. (Previously Amended) An apparatus through which a substrate is transferred between a first vacuum chamber and a second vacuum chamber, wherein said first vacuum chamber is maintained at a high temperature relative to an ambient temperature of said second vacuum chamber, said second vacuum chamber including a port; said apparatus comprising:

a passageway for receiving said substrate, said passageway including a heating element for maintaining said apparatus at a temperature that is proximate to said high temperature; and

an interface that reduces heat transfer from said first vacuum chamber to said second vacuum chamber, said interface allowing for transfer of said substrate between said apparatus and said second vacuum chamber, said interface having a face with a border disposed on said face, the border defining a hole in said interface having dimensions such that said substrate is transferrable through said interface;

wherein said thermally isolating interface is made of metal having a thermal conductivity coefficient of less than 1536 Btu inch/(hr)(ft²)(°F) and wherein said first vacuum chamber, said apparatus, and said second chamber are sealed together to form a closed environment having an internal pressure that is less than standard atmospheric pressure.

22. (New) An apparatus through which a substrate is transferred between a first vacuum chamber and a second vacuum chamber, wherein said first vacuum chamber is maintained at a high temperature relative to a temperature maintained within said second vacuum chamber, said second vacuum chamber including a port; said apparatus comprising:

a passageway for receiving said substrate; and

a thermally isolating interface that reduces heat transfer from said first vacuum chamber to said second vacuum chamber, said thermally isolating interface allowing for transfer of said substrate between said apparatus and said second vacuum chamber, said thermally isolating interface having a face with a border disposed on said face, the border defining a hole in said thermally isolating interface having dimensions such that said substrate is transferrable through said thermally isolating interface;

wherein said thermally isolating interface is made of a metal having a thermal conductivity coefficient of less than 1536 Btu inch/(hr)(ft²)(°F);

wherein said first vacuum chamber, said apparatus, and said second chamber are sealed together to form a closed environment having an internal pressure that is less than standard atmospheric pressure; and

wherein said face includes a beveled recess such that, when said face abuts said port, a thermally isolating volume is defined within said recess.